What is SUE?

Subsurface Utility Engineering (SUE) is an engineering process for accurately identifying the quality of subsurface utility information needed for highway plans, and for acquiring and managing that level of information during the development of a highway project.

How good is SUE?

The Federal Highway Administration (FHWA) commissioned Purdue University to find out how effective SUE is in reducing costs on highway projects.

Purdue University researchers:

- Documented a ***savings of $4.62 for every $1.00 spent*** on SUE;
- Determined the cost of using SUE amounted to less than 0.5% of the total construction cost; and
- Projected a minimum national savings of approximately $1 billion per year when SUE is used systematically nationwide.

Copies of Purdue's January 2000 report, "Cost Savings on Highway Projects Utilizing Subsurface Utility Engineering," may be obtained from the FHWA.

How does SUE work?

- The highway agency assumes the responsibility for considering and dealing with utility risks. Depending upon the complexity of the project, this may involve actions ranging anywhere from making a conscious decision to proceed with the project using readily available information, to employing the services of an engineer to provide expert advice and to use available technologies to provide better information.
- The engineer, when involved, will advise the highway agency of utility risks and reccommend an appropriate quality level of utility data for a given project area at the appropriate time within the project planning and design process. The highway agency will then specify to the engineer the desired quality level of utility data.
- The engineer will furnish the desired utility quality level to the highway agency in accordance with the standard of care, and will be responsible for negligent errors and/or omissions in the utility data for the certified utility quality level.

What are Quality Levels?

The use of quality levels in the SUE process allows designers to certify on the plans that a certain level of accuracy and comprehensiveness has been provided. The CADD file or project plans may contain any or all of the following four quality levels:

- **Quality Level D** information comes solely from existing utility records.
- **Quality Level C** involves surveying visible above-ground utility facilities, such as manholes, vale boxes, etc., and correlating this information with existing utility records.
- **Quality Level B** involves the use of surface geophysical techniques to determine the existence and horizontal position of underground utilities.
- **Quality Level A** involves the use of nondestructive digging equipment at critical points to determine the precise horizontal and vertical position of undergound utilities, as well as the type, size, condition, material, and other characteristics.

What are the benefits of SUE?

- Unnecessary utility relocations are avoided.
- Unexpected conflicts with underground utilities are eliminated.
- Contractor delays, subsequent claims, and re-design costs are reduced.
- Safety is enhanced.

Visit the SUE Web Site

www.fhwa.dot.gov/infrastructure/progadmin/sueindex.htm

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